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The relationship between cortisol, perceived stress, and dental caries experience in adolescents and young adults

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The dental literature extensively discusses the relationship between stress and dental caries. However, the role of stress in dental caries remains uncertain due to the confounding effect of inflammation caused by gingivitis and periodontal disease, leading to elevated cortisol levels. Few studies have investigated salivary cortisol levels in young adults without periodontal disease and well-controlled gingivitis. Young adults are more subject to increased levels of stress. This study collected hair and saliva samples from 93 participants aged 15 to 25.

Participants completed a stress questionnaire and underwent oral examinations. Higher perceived stress was associated with increased dental caries likelihood. Participants with dental caries showed significantly higher hair cortisol levels, but no significant difference was found in salivary cortisol levels. Our study suggests that adolescents and young adults with dental caries experience higher perceived stress and exhibit elevated hair cortisol levels than those without dental caries.